UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,296	07/11/2003	Raymond Mark Nuber	13075US01 (22-0152)	4360

23400 7590 02/22/2008	**EXAMINER**	
POSZ LAW GROUP, PLC	GONZALEZ, AMANCIO	
12040 SOUTH LAKES DRIVE		
SUITE 101	ART UNIT	PAPER NUMBER
RESTON, VA 20191	2617	

MAIL DATE	DELIVERY MODE
02/22/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>04 September 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>40-59</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>40-59</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed on 09/04/2007 have been fully considered but they are not persuasive.

The argued features, mainly a satellite capable of receiving analog transmissions and forwarding digital transmissions, which the Applicant defines as a hybrid payload satellite, as well as providing onboard demand assigned multiple access protocol, allowing multiple users to efficiently use a common uplink transmission resource, read on the cited prior art as follows.

Bell is discussing a satellite that handles both analog and digital data, hence a

hybrid payload satellite, contrary to the Applicant's arguments on that respect. As stated

in the office action, Bell clearly shows receiving and amplifying an analog transmission

and afterward forwarding it as digital transmission (Applicant can refer back to the

rejection of claim 40). Although the Applicant alleges that what Bell discloses is "an all-

digital satellite payload," and Bell describes the invention as such, handling both analog

and digital transmissions is explicitly stated in the cited reference, hence anon-board

hybrid payload functionality on the satellite being provided. Also, contrary to the

Applicant's argument, Prieto provides the grounds regarding onboard demand assigned

multiple access protocol, allowing multiple users to efficiently use a common uplink

transmission resource Therefore, the combined cited references disclose the limitation

of a "hybrid payload satellite," that is, analog and digital on-board transmission handling

on a satellite, consequently also disclosing the limitation of the present application.

As a result, the argued features are written such that they read upon the cited

references.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

 1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating
   obviousness or nonobviousness.

3.   Claims 40-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bell et al (US 20040185775 A1), hereafter "Bell," in view of Prieto et al. (US 6381228

B1), hereafter "Prieto."

 Consider claim 40, Bell discloses a hybrid payload satellite (***hybrid* reads on**

***digital/analog* -see the abstract, pars. 0030, 0033, 0041, 0048, 0055, where Bell**

discusses onboard digital/analog payload processing in a communication

satellite). Bell discloses the hybrid payload satellite including an antenna having an

uplink section and a downlink section **(see par. 0034, where Bell discuses uplink and**

downlink antennae). Bell discloses an uplink electronics unit, and connection

resources, the hybrid payload satellite capable of handling a digital payload and an

analog payload **(see pars. 0004, 0030, and 0055, claim 20, where Bell discusses**

analog/digital circuitry and functions). Bell discloses a forward payload section

including a forward processing module and a forward amplifier, the forward payload

section for handling the analog payload (***forwarding* reads on *retransmitting***

***downlink to earth or to another satellite;* hence, *forward processing module* reads**

on *down-converter* -see pars. 0005, 0029, 0032, 0055, where Bell discusses

amplifying and processing, i.e., multiplexing and down-converting a received

beam and retransmitting to earth or to another satellite).

Bell discloses a return payload section including a return processing module and

a return amplifier and the return payload section for handling the digital payload (***return***

payload **read on** ***uplink beam*** **–see the abstract, par. 0005, par. 0007 lines 1-24,**

pars. 0011, 0012), but does not particularly refer to having an arbitration processor or

intercepting a request from one of a plurality of user terminals on the uplink section for

access to a connection with the content provider or either granting or denying the

intercepted request based on the resources available for transmission to the content

provider. Prieto teaches an arbitration processor (***arbitration*** **reads on** ***coordination of***

non-contentious data transmission **–see the abstract, col. 2 lines 19-26, 61-67,**

col. 3 lines 1-25, where Prieto discusses coordination of non-contentious data

transmission). Prieto further teaches intercepting a request from one of the plurality of

user terminals on the uplink section for access to a connection with the content provider

(see col. 3 lines 3-6, where Prieto discusses user terminals sending a service

reservation request). Prieto further teaches either granting the intercepted request or

denying the intercepted request based on the resources available for transmission to

the content provider **(see col. 3 lines 10-25, where Prieto discusses granting or**

denying the reservation request based on a set of predetermined parameters,

including resource availability).

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to modify the invention of Bell and have it include an arbitration

processor and intercepting a request from one of a plurality of user terminals on the

uplink section for access to a connection with the content provider, either granting or

denying the intercepted request based on the resources available for transmission to

the content provider, as taught by Prieto, thereby providing means for providing in a

communication satellite an onboard demand assigned multiple access protocol for use

in connection with a processing satellite communication network that allows multiple

users to efficiently use a common uplink transmission resource, as discussed by Prieto

(see col. 1 lines 7-14).

Consider claim 41, Bell, as modified by Prieto, teaches claim 40 and further

teaches wherein the forward amplifier includes a forward traveling wave tube amplifier

(TWTA) and the return amplifier includes a return TWTA (see Bell: par. 0032).

Consider claim 42, Bell, as modified by Prieto, teaches claim 40, and Prieto

further teaches wherein the arbitration processor is further configured to transmit a

message to the plurality of user terminals granting or denying access to the connection

resources (see Prieto: the abstract, col. 3 lines 10-25).

Consider claim 43, Bell, as modified by Prieto, teaches claim 40, and Prieto

further teaches collision detection (see Prieto: col. 2 lines 8-11, col. 4 lines 40-55, where

Prieto discusses the user detecting a collision by absence of acknowledgment on the

downlink within a predetermined time or acknowledgement timeout).

Consider claims 44-48, Bell, as modified by Prieto, teaches claim 40, and Prieto

further teaches a demand assigned multiple access (DAMA) processor (see Prieto: the

abstract, col. 2 lines 61-67, col. 4 lines 15-39, fig. 2).

New Claims

Claim Rejections - 35 USC § 103

4.   Claims 49-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bell et al (US 20040185775 A1), hereafter "Bell," in view of Prieto et al. (US 6381228

B1), hereafter "Prieto."

Consider claim 49, Bell discloses a hybrid payload satellite (*hybrid* **reads on**

digital/analog **-see the abstract, pars. 0030, 0033, 0041, 0048, 0055, where Bell**

discusses onboard digital/analog payload processing in a communication

satellite). Bell discloses an antenna having an uplink section and a downlink section

(see par. 0034, where Bell discuses uplink and downlink antennae). Bell discloses

an analog section including an analog processing module and amplifier, the analog

payload section for performing analog payload processing on downlink signals from the

content provider to at least one of the plurality of terminals **(see pars. 0005, 0027, 0029,**

and 0034). Bell discloses al payload section including a digital processing module and a

digital amplifier, the digital payload section for performing digital payload processing on

uplink signals from at least one of the plurality of user terminals to the content provider

(see pars. 0005, 0029, 0032, 0055).

Bell discloses a return payload section including a return processing module and

a return amplifier and the return payload section for handling the digital payload (*return*

payload **read on** *uplink beam* **–see the abstract, par. 0005, par. 0007 lines 1-24,**

pars. 0011, 0012), but does not particularly refer to having an arbitration processor or

intercepting a request from one of a plurality of user terminals on the uplink section for

access to a connection with the content provider or either granting or denying the

intercepted request based on the resources available for transmission to the content

provider. Prieto teaches an arbitration processor (*arbitration* reads on *coordination of*

non-contentious data transmission –see the abstract, col. 2 lines 19-26, 61-67,

col. 3 lines 1-25, where Prieto discusses coordination of non-contentious data

transmission). Prieto further teaches intercepting a request from one of the plurality of

user terminals on the uplink section for access to a connection with the content provider

(see col. 3 lines 3-6, where Prieto discusses user terminals sending a service

reservation request). Prieto further teaches either granting the intercepted request or

denying the intercepted request based on the resources available for transmission to

the content provider (see col. 3 lines 10-25, where Prieto discusses granting or

denying the reservation request based on a set of predetermined parameters,

including resource availability).

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to modify the invention of Bell and have it include an arbitration

processor and intercepting a request from one of a plurality of user terminals on the

uplink section for access to a connection with the content provider, either granting or

denying the intercepted request based on the resources available for transmission to

the content provider, as taught by Prieto, thereby providing means for providing in a

communication satellite an onboard demand assigned multiple access protocol for use

in connection with a processing satellite communication network that allows multiple

users to efficiently use a common uplink transmission resource, as discussed by Prieto

(see col. 1 lines 7-14).

Consider claim 50, Bell, as modified by Prieto, teaches claim 49, and Bell further

teaches wherein the forward amplifier includes a forward traveling wave tube amplifier

(TWTA) and the return amplifier includes a return TWTA (see Bell: par. 0032).

Consider claim 51, Bell, as modified by Prieto, teaches claim 49, and Prieto

further teaches Prieto: col. 6 lines 24-28, col. 7 lines 9-13, where Prieto discusses digital

transmission, TDMA, and arbitration, e.g., contention free access).

Consider claim 52, Bell, as modified by Prieto, teaches claim 49, and Prieto

further teaches wherein the arbitration processor is further configured to transmit a

message to the plurality of user terminals granting or denying access to the connection

resources (see Prieto: the abstract, col. 3 lines 10-25).

Consider claim 53, Bell, as modified by Prieto, teaches claim 49, and Prieto

further teaches collision detection (see Prieto: col. 2 lines 8-11, col. 4 lines 40-55, where

Prieto discusses the user detecting a collision by absence of acknowledgment on the

downlink within a predetermined time or acknowledgement timeout).

Consider claims 44-48, Bell, as modified by Prieto, teaches claim 40, and Prieto further

teaches a demand assigned multiple access (DAMA) processor (see Prieto: the

abstract, col. 2 lines 61-67, col. 4 lines 15-39, fig. 2).

Consider claims 54-58, Bell, as modified by Prieto, teaches claim 49, and Prieto

further teaches a demand assigned multiple access (DAMA) processor (see Prieto: the

abstract, col. 2 lines 61-67, col. 4 lines 15-39, fig. 2).

5.   Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bell et al

(US 20040185775 A1), hereafter "Bell," in view of Prieto et al. (US 6381228 B1),

hereafter "Prieto," as applied to claim 49, further in view of Hreha (US 6400696 B1),

hereafter "Hreha."

Consider claim 59, Bell as modified by Prieto teaches claim 49, but does not

particularly refer to a bent pipe satellite. Hreha teaches a bent pipe satellite (see col. 2

lines 28-32). It would have been obvious to a person of ordinary skill in the art at the

time the invention was made to modify the invention of Bell as modified by Prieto and

have it include a bent pipe satellite, as taught by Hreha, thereby providing means for the

motivation of improving dynamic resource management with satellite systems, as

discussed by Hreha (see col. 1 lines 7-9).

Conclusion

Applicant's amendment, e.g., introduction of new claims, necessitated the new

ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS**

MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed**

to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Delaney Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Amancio Gonzalez, whose telephone number is (571)

270-1106. The Examiner can normally be reached on Monday-Thursday from 8:00 am

to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's

supervisor, Rafael Pérez-Gutiérrez can be reached at (571) 272-7915. The fax phone

number for the organization where this application or proceeding is assigned is (571)

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist/customer service whose telephone

number is (571) 272-2600.

Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Amancio González, whose telephone number is (571)

270-1106. The Examiner can normally be reached on Monday-Thursday from 8:00am to

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have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist/customer service whose telephone

number is (571) 272-2600.

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February 19, 2008

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2|19|09